

# PipeBloc EL

## Technical Data Sheet

UIC of product-type: EL



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**APPROVED  
CF5368**



**ETA 15-0491  
CE-1121-GPR-JA5082**



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# Product Technical Data

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## Product Overview

### Technical Description of the Product

PipeBloc EL is designed and tested to seal service penetration apertures containing plastic and metallic pipes with insulation, using thermoplastic composites based on graphite intumescent technology. Developed to provide a high volume expansion and pressure seal during a fire the PipeBloc EL offers EI120 tested to EN1366-3, the maximum diameter being 250mm, the ultra thin design of PipeBloc EL ensuring that they can be installed in to the tightest of locations.

PipeBloc EL is installed around combustible pipes to form a penetration seal used to reinstate the fire resistance performance of wall and floor constructions where they have been provided with apertures for the penetration of combustible pipe services.

PipeBloc EL can be used with Pyrocoustic Sealant to seal the space between the combustible pipe and the aperture to close any gap.

### Intended Use

The intended use of PipeBloc EL is to reinstate the fire resistance performance of wall and floor constructions, where they are penetrated by various combustible pipe services.

The specific elements of construction that the system PipeBloc EL may be used is as follows:

- Fire resistance testing to EN 1366-3: 2009.
- Classified as EI 120 using EN 13501-2.
- Certifire 3rd Party Certification CF 5368.
- Fire resistance testing in flexible walls, rigid floors and Stopseal Batt.
- PipeBloc EL gives the users versatility when installing in a multitude of common site conditions, PipeBloc EL is supplied in a convenient 25m long, 40mm wide roll.
- Can be use with Plastic Pipes - PVC, HDPE, PP, PE, ABS, PVC-C and SAN + PVC.

### Key Product Points

- Can be used to close off various types of insulation around metallic pipes.
- Causes no known effects to plastic pipes.
- The product is based on an thermoplastic composite and is therefore non-toxic.
- Halogen free, contains no asbestos, ceramic or mineral fibres.
- Not affected by fungus, vermin or rodents.
- Conditioned to Type X: -20°C to +70°C with accordance with EOTR 024 and Etag 026.



# Product Technical Data

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| Description                          | Result   | Test Standards                 |
|--------------------------------------|--|--------------------------------|
| Pipe Diameter                        | 32mm, 40mm, 50mm, 55mm, 63mm, 75mm, 82mm, 90mm, 100mm, 110mm, 125mm, 140mm, 160mm, 200mm and 250mm |                                |
| Plastic types                        | PVC-U, PVC-C, ABS, SAN + PVC, PE-HD, PE, PP  |                                |
| Width (Nominal)                      | 40mm   |                                |
| Thickness (Nominal)                  | 2mm at 32mm upto 10mm at 200mm   |                                |
| Density                              | Approximately 1.2 g/cm <sup>3</sup>  | ISO 2811-1:2011                |
| Volume Expansion at 450°C            | Approximately 25 times   | EOTA TR 024                    |
| Expansion Pressure N/mm <sup>2</sup> | Up to max 1.30   |                                |
| Fire Resistance                      | Up to EI 120   | EN 1366-3: 2009 and EN 13501-2 |
| Insulation                           | Phenolic, Elastomeric, Glass and Stone   |                                |
| Expected Shelf Life                  | N/A  | N/A                            |

## Installation

Ensure that the aperture and services in question are tested with Pipebloc EL, and the site conditions are within the application specification. Sufficient annular space needs to be present around the service to allow adequate installation depth.

All services and apertures need to be clean and clear of all dust and loose particles. The aperture temperature needs to be at 5°C or above at time of installation.

Upon installation make sure that you install the Pipebloc EL around the pipe using the correct number of wraps needed, leaving 5mm from the face of the surface, make sure that you fill all of the annulus with Pyrocoustic Sealant to finish of the system.

Ensure that the “ mesh” side of the PipeBloc EL is facing away from the service during installation.

Once compacted, smooth off the Pyrocoustic Sealant to produce a professional looking finish.

| Pipe Diameter | Intumescent Thickness |                      |
|---------------|-----------------------|----------------------|
|               | No of Layers / Wraps  | Total Thickness (mm) |
| 40            | 1                     | 2                    |
| 55            | 2                     | 4                    |
| 63            | 2                     | 4                    |
| 75            | 2                     | 4                    |
| 82            | 2                     | 4                    |
| 90            | 3                     | 6                    |
| 110           | 3                     | 6                    |
| 125           | 4                     | 8                    |
| 160           | 4                     | 8                    |
| 200           | 5                     | 10                   |



# Performance Data - Walls

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## Substrates

The walls shall be a minimum of **100mm thick**. Drywalls shall comprise a minimum of 2 layers of 'Type F' Gypsum board on both faces, with minimum 50mm studs. Masonry / Concrete walls shall have a minimum density for concrete or brick of 780kg/m<sup>3</sup> and for aerated concrete blocks of 600kg/m<sup>3</sup>. All walls shall have at least the same fire resistance as that required for the sealing system.

## Service support requirements

Services should be rigidly supported via steel angles, hangers or channels, not further than 400mm from the surface of the sealing system on both faces of wall and top face of floor unless specified otherwise in the performance data.

## Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I =Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

## FLEXIBLE OR RIGID WALL

| PipeBloc EL, friction fitted flush to both sides of Flexible or Rigid walls with a minimum thickness of 100 mm PVC Pipes. |                            |                       |                    |                |
|---|----------------------------|-----------------------|--------------------|----------------|
| Penetration Specification   | Wrap Reference             | Intumescent Material  | Annulus Space (mm) | Classification |
| PVC Pipe 50 mm ø 1.8mm wall thickness.  | 25 mtr roll of PipeBloc EL | 40 mm (W) x 4 mm (T)  | 4                  | EI 120 U/C     |
| PVC Pipe 160 mm ø 6.2mm wall thickness.   |                            | 40 mm (W) x 8 mm (T)  | 10                 | EI 90 U/C      |
| PVC Pipe 160 mm ø 9.5mm wall thickness.   |                            | 40 mm (W) x 10 mm (T) | 12                 | EI 120 U/C     |
| PVC Pipe 200 mm ø 7.7mm wall thickness.   |                            |                       |                    |                |
| PVC Pipe 200 mm ø 9.6mm wall thickness.   |                            |                       |                    |                |

| PipeBloc EL, friction fitted flush to both sides of Flexible or Rigid walls with a minimum thickness of 100 mm PP Pipes. |                            |                       |                    |                         |
|--|----------------------------|-----------------------|--------------------|-------------------------|
| Penetration Specification  | Wrap Reference             | Intumescent Material  | Annulus Space (mm) | Classification          |
| PP Pipe 50 mm ø 2.9 mm wall thickness.   | 25 mtr roll of PipeBloc EL | 40 mm (W) x 4 mm (T)  | 4                  | EI 120 U/C              |
| PP Pipe 160 mm ø 4.0 mm wall thickness.  |                            | 40 mm (W) x 8 mm (T)  | 10                 | E 120 U/C<br>EI 90 U/C  |
| PP Pipe 160 mm ø 14.6 mm wall thickness.   |                            | 40 mm (W) x 10 mm (T) | 12                 | EI 120 U/C<br>EI 90 U/C |
| PP Pipe 200 mm ø 4.9 mm wall thickness.  |                            |                       |                    |                         |
| PP Pipe 200 mm ø 18.2 mm wall thickness.   |                            |                       |                    |                         |
| PP Pipe 250 mm ø 10.1 mm wall thickness.   |                            |                       |                    |                         |



# Performance Data - Walls

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## FLEXIBLE OR RIGID WALL

PipeBloc EL, friction fitted flush to both sides of Flexible or Rigid walls with a minimum thickness of 100 mm PE Pipes.

| Penetration Specification                     | Wrap Reference             | Intumescent Material  | Annulus Space (mm) | Classification |
|---|----------------------------|-----------------------|--------------------|----------------|
| PE Pipe 50 mm $\phi$ 2.9 mm wall thickness.   | 25 mtr roll of PipeBloc EL | 40 mm (W) x 4 mm (T)  | 4                  | EI 120 U/C     |
| PE Pipe 160 mm $\phi$ 4.9 mm wall thickness.  |                            | 40 mm (W) x 8 mm (T)  | 10                 | EI 15 U/C      |
| PE Pipe 160 mm $\phi$ 9.5 mm wall thickness.  |                            | 40 mm (W) x 8 mm (T)  | 10                 | EI 90 U/C      |
| PE Pipe 200 mm $\phi$ 4.9 mm wall thickness.  |                            | 40 mm (W) x 10 mm (T) | 12                 | EI 15 U/C      |
| PE Pipe 200 mm $\phi$ 18.4 mm wall thickness. |                            | 40 mm (W) x 10 mm (T) | 12                 | EI 120 U/C     |



# Performance Data - Batt

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## Substrates

The walls shall be a minimum of **100mm thick**. Drywalls shall comprise a minimum of 2 layers of 'Type F' Gypsum board on both faces, with minimum 50mm studs. Masonary / Concrete walls shall have a minimum density for concrete or brick of 780kg/m<sup>3</sup> and for aerated concrete blocks of 600kg/m<sup>3</sup>. All walls shall have at least the same fire resistance as that required for the sealing system.

## Service support requirements

Services should be rigidly supported via steel angles, hangers or channels, not further than 400mm from the surface of the sealing system on both faces of wall and top face of floor unless specified otherwise in the performance data.

## Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I =Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

## STOPSEAL BATT

### Stopseal 50mm Batt in Rigid & Flexible Walls with a minimum thickness of 100mm both faces.

| Aperture Size             | Seal Composition   | Services   | Capping | Seal   | Classification |
|---------------------------|--|--|---------|--|----------------|
| 750mm wide by 1200mm high | Pattress installation of 50mm thick 140kg/m <sup>3</sup> Stopseal Coated Batt. | Single copper or steel pipe 40 - 159mm diameter and 1 - 14.2mm wall thickness with sustained/continuous Elastomeric foam insulation 13 - 25mm thick. | C/U     | 2 Layers of 2mm thick 40mm wide PipeBloc EL installed within both Batts. | E 120, EI 60   |
|                           |  | Single copper or steel pipe 42mm diameter and 1mm wall thickness with sustained/continuous Elastomeric foam insulation 13 - 25mm thick.              |         |  | EI 120         |
|                           |  | Single copper or steel pipe 40 - 159mm diameter and 1.2 - 14.2mm wall thickness with sustained/continuous Elastomeric foam insulation 25mm thick.    |         |  | EI 90          |



# Performance Data - Batt

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## STOPSEAL BATT

| Stopseal 50mm Batt in Rigid & Flexible Walls with a minimum thickness of 100mm both faces. |  |  |         |  |                |
|--|--|--|---------|--|----------------|
| Aperture Size  | Seal Composition   | Services   | Capping | Seal   | Classification |
| 750mm wide by 1200mm high  | Pattress installation of 50mm thick 140kg/m <sup>3</sup> Stopseal Coated Batt. | Single copper or steel pipe 40 - 108mm diameter and 1 - 14.2mm wall thickness with sustained/continuous Phenolic Foam insulation 25 - 40mm thick . | C/U     | 2 Layers of 2mm thick 40mm wide PipeBloc EL installed within both Batts. | EI 90          |
|  |  | Single copper or steel pipe 42mm diameter and 1mm wall thickness with sustained/continuous Phenolic Foam insulation 25 - 40mm thick.               |         |  | EI 120         |
|  |  | Single copper or steel pipe 40 - 108mm diameter and 1.2 - 14.2mm wall thickness with sustained/continuous Phenolic Foam insulation 40mm thick.     |         |  | EI 120         |

| Double Stopseal 50mm Batt in Rigid & Flexible Walls with a minimum thickness of 100mm both faces. |   |  |  |                |
|---|---|--|--|----------------|
| Aperture Size   | Seal Composition  | Services   | Seal   | Classification |
| 750mm wide by 1200mm high   | Double layer of 50mm thick 140kg/m <sup>3</sup> Stopseal Coated Batt. . | Single copper or steel pipe 40 - 159mm diameter and 1 - 14.2mm wall with sustained/continuous Elastomeric insulation 13 - 25mm thick . | 2 Layers of 2mm thick 40mm wide PipeBloc EL installed within both-Batts. | EI 60          |
|   |   | Single copper or steel pipe 42mm diameter and 1mm wall with sustained/continuous Elastomeric insulation 13 - 25mm thick.               |  | E120, EI 90    |





# Performance Data - Batt

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## STOPSEAL BATT

| Double Stopseal 50mm Batt in Rigid & Flexible Walls with a minimum thickness of 100mm. |   |  |         |  |                |
|--|---|--|---------|--|----------------|
| Aperture Size  | Seal Composition  | Services   | Capping | Seal   | Classification |
| 750mm wide by 1200mm high  | Double layer of 50mm thick 140kg/m <sup>3</sup> Stopseal Coated Batt. | Single copper or steel pipe 40 - 108mm diameter and 1 - 14.2mm wall thickness with sustained/continuous Phenolic Foam insulation 25 - 40mm thick . | C/U     | 2 Layers of 2mm thick 40mm wide PipeBloc EL installed within both Batts. | E120, EI 60    |
|  |   | Single copper or steel pipe 42mm diameter and 1mm wall thickness with sustained/continuous Phenolic Foam insulation 25 - 40mm thick.               |         |  | E120, EI 90    |

| PipeBloc EL, Installed into double Stopseal Batt in Flexible Wall with a minimum thickness of 100mm PVC-U, PVC-C with Insulation. |   |  |         |                                    |                |
|---|---|--|---------|------------------------------------|----------------|
| Aperture Size   | Seal Composition  | Services   | Capping | Seal                               | Classification |
| 600mm wide by 600mm high  | Double layer of 50mm thick 140kg/m <sup>3</sup> Stopseal Coated Batt. | PVC-U Pipes 40mm diameter with Armaflex Insulation 'Class O' 9-32mm thickness (Continuous/Sustained).          | U/C     | 100mm separation between services. | EI 90          |
|   |   | PVC-U Pipes 40mm - 110mm diameter with Armaflex Insulation 'Class O' 13-32mm thickness (Continuous/Sustained). |         |                                    |                |
|   |   | PVC-U Pipes 40mm diameter with Kingspan Phenolic Insulation 15-25mm thickness (Continuous/Sustained).          |         |                                    |                |
|   |   | PVC-U Pipes 40mm - 110mm diameter with Kingspan Phenolic Insulation 20-25mm thickness (Continuous/Sustained).  |         |                                    |                |



# Performance Data - Floor

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## Substrates

The floors shall be a minimum of **150mm thick**. Masonry / Concrete floors shall have a minimum density for concrete or brick of 780kg/m<sup>3</sup> and for aerated concrete blocks of 600kg/m<sup>3</sup>. All floors shall have at least the same fire rating as that required for the sealing system.

## Service support requirements

Services should be rigidly supported via steel angles, hangers or channels, not further than 400mm from the surface of the sealing system on both faces of wall and top side of the floor unless specified otherwise in the performance data.

## Terminology

Fire performance in accordance with EN1366-3, EN1366-4, Classification 13501-2:2007 + A1:2009, ETAG-026, Air Permeability EN1026, Sound EN10140. Fire resistance classes are: E = Integrity, the product can withstand the fire from the non-fire side, I = Insulation, the product can withstand the temperature travelling down the service, U/U = Uncapped inside and outside the furnace, U/C = Uncapped inside and Capped outside the furnace, C/U = Capped inside and Uncapped outside the furnace.

## RIGID FLOOR

### PipeBloc EL, friction fitted flush to both sides (top and bottom) of Rigid Floor with a minimum thickness of 150 mm PP Pipes.

| Penetration Specification                     | Wrap Reference         | Intumescent Material   | Annulus Space (mm) | Classification         |
|---|------------------------|--|--------------------|------------------------|
| PP Pipe 50 mm $\phi$ 2.9 mm wall thickness.   | 25 mtrs of PipeBloc EL | 1 Layer of 40 mm (W) x 2 mm (T)<br>1 Layer of 40 mm (W) x 2 mm (T)<br>Combined Thickness<br>40 mm (W) x 4 mm (T) | 4                  | EI 120 U/C             |
| PP Pipe 200 mm $\phi$ 4.9 mm wall thickness.  |                        | 40 mm (W) x 10 mm (T)  | 10                 | E 20 U/C<br>EI 15 U/C  |
| PP Pipe 200 mm $\phi$ 18.2 mm wall thickness. |                        |  |                    | E 120 U/C<br>EI 90 U/C |

### PipeBloc EL, friction fitted flush to both sides (top and bottom) of Rigid Floor with a minimum thickness of 150 mm HDPE Pipes.

| Penetration Specification                       | Wrap Reference         | Intumescent Material   | Annulus Space (mm) | Classification |
|---|------------------------|--|--------------------|----------------|
| HDPE Pipe 50 mm $\phi$ 2.9 mm wall thickness.   | 25 mtrs of PipeBloc EL | 1 Layer of 40 mm (W) x 2 mm (T)<br>1 Layer of 40 mm (W) x 2 mm (T)<br>Combined Thickness<br>40 mm (W) x 4 mm (T) | 4                  | EI 120 U/C     |
| HDPE Pipe 200 mm $\phi$ 4.9 mm wall thickness.  |                        | 40 mm (W) x 10 mm (T)  | 12                 | EI 120 U/C     |
| HDPE Pipe 200 mm $\phi$ 11.4 mm wall thickness. |                        |  |                    | EI 120 U/C     |



# Performance Data - Floor

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## RIGID FLOOR

PipeBloc EL, friction fitted flush to both sides (top and bottom) of Rigid Floor with a minimum thickness of 150 mm PVC Pipes.

| Penetration Specification                        | Wrap Reference     | Intumescent Material  | Annulus Space (mm) | Classification |
|--|--------------------|---|--------------------|----------------|
| Pipe 50 mm $\varnothing$ 1.8 mm wall thickness.  | 50 mm PipeBloc EL  | 1 Layer of 40 mm (W) x 2 mm (T) 1 Layer of 40 mm (W) x 2 mm (T) Combined Thickness 40 mm (W) x 4 mm (T) | 4                  | EI 120 U/C     |
| Pipe 200 mm $\varnothing$ 7.7 mm wall thickness. | 200 mm PipeBloc EL | 40 mm (W) x 10 mm (T)   | 12                 | EI 120 U/C     |
| Pipe 200 mm $\varnothing$ 9.6 mm wall thickness. | 200 mm PipeBloc EL |   |                    | EI 60 U/C      |

PipeBloc EL, friction fitted in centre of seal of Rigid Floor with a minimum thickness of 150mm PVC-U, PVC-C.

| Penetration Specification                      | Wrap Reference    | Intumescent Material | Annulus Space | Classification     |
|--|-------------------|----------------------|---------------|--------------------|
| Pipe 50mm $\varnothing$ 2.4mm wall thickness.  | 40mm PipeBloc EL  | 40mm (w) x 4mm (T)   | 6mm           | EI 240 U/C         |
| Pipe 50mm $\varnothing$ 3.7mm wall thickness.  | 50mm PipeBloc EL  |                      |               | E 240 , EI 120 U/C |
| Pipe 200mm $\varnothing$ 9.6mm wall thickness. | 200mm PipeBloc EL | 40mm (w) x 20mm (T)  | 22mm          | E 240 , EI 180 U/C |
| Pipe 200mm $\varnothing$ 7.7mm wall thickness. | 200mm PipeBloc EL |                      |               | EI 60 U/C          |

PipeBloc EL, Friction fitted in centre of seal of Rigid Floor with a minimum thickness of 150mm PE, ABS & SAN-PVC.

| Penetration Specification                       | Wrap Reference    | Intumescent Material | Annulus Space | Classification |
|---|-------------------|----------------------|---------------|----------------|
| Pipe 50mm $\varnothing$ 3mm wall thickness.     | 40mm PipeBloc EL  | 40mm (w) x 4mm (T)   | 6mm           | EI 240         |
| Pipe 50mm $\varnothing$ 4.6mm wall thickness.   | 50mm PipeBloc EL  |                      |               |                |
| Pipe 200mm $\varnothing$ 4.9mm wall thickness.  | 200mm PipeBloc EL | 40mm (w) x 20mm (T)  | 22mm          |                |
| Pipe 200mm $\varnothing$ 18.2mm wall thickness. | 200mm PipeBloc EL |                      |               |                |

PipeBloc EL, friction fitted in centre of seal of Rigid Floor with a minimum thickness of 150mm PP.

| Penetration Specification                       | Wrap Reference    | Intumescent Material | Annulus Space | Classification |
|---|-------------------|----------------------|---------------|----------------|
| Pipe 50mm $\varnothing$ 2mm wall thickness.     | 40mm PipeBloc EL  | 40mm (w) x 4mm (T)   | 6mm           | EI 240         |
| Pipe 50mm $\varnothing$ 6.9mm wall thickness.   | 50mm PipeBloc EL  |                      |               |                |
| Pipe 200mm $\varnothing$ 4.9mm wall thickness.  | 200mm PipeBloc EL | 40mm (w) x 20mm (T)  | 22mm          |                |
| Pipe 200mm $\varnothing$ 18.2mm wall thickness. | 200mm PipeBloc EL |                      |               | EI 120         |



# Extended Scope of Works

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## Direct field of application – DiAP and Extended Field of Application- EXAP

DiAP and EXAP rules are an output from European harmonization of fire testing methods, classifications and product standards where applicable. At a national level, experienced persons or fire test organisations have previously provided assessments of expected performance based on expert judgement and opinion, however these rules allow interpretation through the specific EN 1366 test standard.

DiAP and EXAP rules are provided in the EN 1366 and EN 15882 test standards series. They are derived from information obtained from tests carried out in accordance with relevant EN 1366 tests at recognised laboratories in Europe. The test results achieved by a particular design may be directly applied to a limited number of variations without recourse to expert advice, providing the design remains substantially as tested. EXAPs shall be based on primary test evidence to a specific part of the EN 1366 series and may be supplemented by appropriate test evidence generated from other sources, or other relevant historical data. The EXAP rules consider changes in the tested design beyond the scope of direct application and may also consider variations to the tested design.

### Direct field of application - DiAP

Fire Stopping systems of this type are often complicated by extensive changes in modern buildings and their influence on the fire hazard should be considered carefully. The fire hazard can be reduced by providing penetration seals at the points where the services pass through fire separating elements (walls/floors).

The impact of fire on a construction or service system can vary considerably. A strict scientific approach to the problem of adequate testing of a sealing system would, therefore, be to design a series of tests each of which corresponds to a specified fire situation and arrangement. However, such an approach would probably fail due to its economic consequences, as tests of this type are very timeconsuming and costly. The method of test described in the EN 1366 series has therefore been designed with the intention of covering a wide range of fire situations in a minimum of tests. To allow a wider field of application, standard configurations are defined on the basis of general experience and historic data wherever possible. As frequently a number of influencing parameters was considered when defining the standard configurations, not all of which may be addressed explicitly in the field of direct application rules (e.g. metalscreen of cables). To allow nevertheless flexibility a modular approach was taken as far as possible so that various combinations of standard configuration elements can be used to fit the needs of the user.

Where a nonstandard configuration was used, the field of application is restricted to what was tested, however the field of direct application rules given in the various parts of the EN 1366 series may be applied, subject to deviating rules given in the annexes of each part. Rules cover supporting construction, orientation, penetrating services, service supports, penetration seal size, distances and overall configurations of penetration seal materials and services to be included.

### Extended Field of Application- EXAP

The purpose EXAP document is to provide the principles and guidance for the preparation of extended application documents for penetration sealing systems tested in accordance with the EN 1366 and EN 15882 series. The field of the extended application document is additional to the direct field of application given within the relevant part of EN 1366 and may be applied to or based on a single test, or a number of tests, which provide the relevant information for the formulation of an extended application.

There are a number of practical limitations on the size and design of elements that can be tested by the standard methods of fire resistance test. When these elements are required to be larger, or are of a modified design, there is a necessity to be able to confirm their performance, without the ability of being able to test them. To achieve this, extended application documents for the various elements are used.

Due to the diverse nature of materials and constructions used to seal openings in fire resistant separating elements it has been necessary to separate the extended application principles into generic seal types within the specific EXAP EN 15882 series. Often more than one variation is to be incorporated, should this be the case the overall effect shall be considered. Principles common to all generic seal types are given in the EXAP and rules for each specific generic seal type are given. The Annex provide rules for the application of test results and provides information relating to the extended application of those test results on for service penetrations.

Variables for each seal type, which require consideration included are as follows:

- 1) Separating element;
- 2) Type of service;
- 3) Size of service;
- 4) Seal size and configuration
- 5) Material changes (components or formulation) – comparison test approach, reduced test program
- 6) Orientation
- 7) Penetration seals at the head of walls (like a linear joint) – consider the issue of movement
- 8) Penetration seals at slab edges (like a linear joint) – consider the issue of movement
- 9) Distances of penetration seals to other openings in the separating element e.g. doors



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